SAR ADC Providing Digital Codes with High Accuracy and High Throughput Performance

Abstract

An aspect of the invention improves accuracy of digital codes generated at the output of a SAR ADC by using multiple reference voltages. A first reference voltage is used to generate an equivalent voltage corresponding to previous resolved bits and a second reference voltage is used to generate equivalent voltage corresponding to the bits being presently resolved. Another aspect of the present invention provides an ADC with high SNR as well as high throughput performance. Such a feature may be achieved by resolving some of the MSBs of the digital code using a high speed and low SNR DAC and remaining bits of the digital code using a high SNR DAC.